

## SAFETY DATA SHEET

Version 4.8  
 Revision Date 03/01/2017  
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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	: Benzophenone		
Product Number	: B3634		
Brand	: Sigma-Aldrich		
Product Use	: For laboratory research purposes.		
Supplier	: Sigma-Aldrich Canada Co. 2149 Winston Park Drive OAKVILLE ON L6H 6J8 CANADA	Manufacturer	: Sigma-Aldrich Corporation 3050 Spruce St. St. Louis, Missouri 63103 USA
Telephone	: +1 9058299500		
Fax	: +1 9058299292		
Emergency Phone # (For both supplier and manufacturer)	: +1-703-527-3887 (CHEMTREC)		
Preparation Information	: Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956		

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

#### WHMIS Classification

D2A Very Toxic Material Causing Other Toxic Effects Carcinogen

#### GHS Classification

Acute toxicity, Dermal (Category 5)  
 Acute aquatic toxicity (Category 1)  
 Chronic aquatic toxicity (Category 1)

#### GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H313 May be harmful in contact with skin.  
 H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P273 Avoid release to the environment.  
 P312 Call a POISON CENTER/doctor if you feel unwell.  
 P391 Collect spillage.  
 P501 Dispose of contents/ container to an approved waste disposal plant.

#### HMIS Classification

Health hazard: 0  
 Chronic Health Hazard: \*  
 Flammability: 1  
 Physical hazards: 0

#### Potential Health Effects

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms	: Diphenyl ketone
Formula	: C <sub>13</sub> H <sub>10</sub> O
Molecular weight	: 182.22 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Benzophenone</b>			
119-61-9	204-337-6	-	<=100%

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### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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### 5. FIREFIGHTING MEASURES

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### Hazardous combustion products

#### Explosion data - sensitivity to mechanical impact

No data available

#### Explosion data - sensitivity to static discharge

No data available

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### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

#### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

#### Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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### 7. HANDLING AND STORAGE

#### Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed.

### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature -20 °C

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Personal protective equipment

#### Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Eye protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin and body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form crystalline

Colour white

### Safety data

pH No data available

Melting point/freezing point Melting point/range: 47 - 51 °C (117 - 124 °F) - lit.

Boiling point 305 °C (581 °F) - lit.

Flash point 138 °C (280 °F) - closed cup

Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	1 hPa (1 mmHg) at 108 °C (226 °F)
Density	1.1108 g/cm <sup>3</sup> at 18 °C (64 °F) 1.0869 g/cm <sup>3</sup> at 50 °C (122 °F)
Water solubility	23.9 g/l at 20 °C (68 °F) - slightly soluble
Partition coefficient: n-octanol/water	log Pow: 3.18
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No data available

### Conditions to avoid

No data available

### Materials to avoid

Strong oxidizing agents, Strong reducing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 Oral - Rat - > 10,000 mg/kg

#### Inhalation LC50

No data available

#### Dermal LD50

LD50 Dermal - Rabbit - 3,535 mg/kg

#### Other information on acute toxicity

No data available

### Skin corrosion/irritation

No data available

### Serious eye damage/eye irritation

No data available

### Respiratory or skin sensitisation

No data available

### Germ cell mutagenicity

No data available

Genotoxicity in vitro - Salmonella typhimurium - with and without metabolic activation - negative

Genotoxicity in vitro - mouse lymphoma cells - with and without metabolic activation - negative

Genotoxicity in vitro - E. coli - with and without metabolic activation - negative

Genotoxicity in vivo - Mouse - Intraperitoneal - negative

### **Carcinogenicity**

No data available

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Benzophenone)

### **Reproductive toxicity**

No data available

### **Teratogenicity**

#### **Specific target organ toxicity - single exposure (Globally Harmonized System)**

No data available

#### **Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

No data available

#### **Aspiration hazard**

No data available

#### **Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.

#### **Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### **Synergistic effects**

No data available

#### **Additional Information**

RTECS: DI9950000

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## **12. ECOLOGICAL INFORMATION**

### **Toxicity**

Toxicity to fish	mortality NOEC - Pimephales promelas (fathead minnow) - 5.86 mg/l - 7.0 d mortality LOEC - Pimephales promelas (fathead minnow) - 9.24 mg/l - 7.0 d LC50 - Pimephales promelas (fathead minnow) - 14.2 mg/l - 96.0 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 0.28 mg/l - 24 h

### **Persistence and degradability**

Biodegradability	Result: 0 % - According to the results of tests of biodegradability this product is not readily biodegradable. Method: OECD Test Guideline 301C
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### **Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**PBT and vPvB assessment**

No data available

**Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

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**13. DISPOSAL CONSIDERATIONS****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****DOT (US)**

Not dangerous goods

**IMDG**

UN number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Benzophenone)  
Marine pollutant: Marine pollutant

**IATA**

UN number: 3077 Class: 9 Packing group: III  
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Benzophenone)

**Further information**

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

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**15. REGULATORY INFORMATION****WHMIS Classification**

D2A Very Toxic Material Causing Other Toxic Effects Carcinogen

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

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**16. OTHER INFORMATION****Text of H-code(s) and R-phrase(s) mentioned in Section 3****Further information**

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